CONTRIBUTION TO THE SURGERY OF TRUE CYSTIC KIDNEY.

By J. NIEMACK, M.D.,

OF CHARLES CITY, IOWA.

Cysts in the kidney and true cystic kidney are as yet not kept sufficiently separate in surgical literature.

There is no doubt that a number of cases have been observed in which one or two cysts only were found in one kidney; but there is another class of cases (some of them found in new-born babes) in which the whole kidney substance is a conglomeration of large and small cysts separated by intraligamentous tissue. In the latter case it seems that always both kidneys have shown the same affection, although in different degree.

In solitary cysts, nephrectomy has been successfully supplanted by excision of the cysts.

But there is as yet no consensus of opinion as to the treatment of true cystic degenerated kidney and its complications. For this reason any new case contributed may prove of some value.

Mrs. F. had been under my care for different little ailments for about four years. She was a Scandinavian, aged forty-three, a tall, slender woman of somewhat neurotic disposition, never seriously sick. On the 4th of August, 1900, I saw her for climacteric menorrhagia, which gave me the first opportunity for a physical examination. Then incidentally I found a smooth kidney-shaped tumor below her liver which could be easily palpated, was freely movable, slightly tender, and seemed but a trifle larger than the normal kidney.

The patient seemed to have known nothing about it, and only when questioned admitted that she had noticed some irregularity

of urination, and quite frequently had a dull ache in her right side and back. She was not ready to accede to the suggestion of nephrorrhaphy. Her urine at that time did not show any anomaly. She decided to wear an abdominal supporter.

November 3, three months later, she suddenly had several slight chills with a severe pain right below her liver. I found her in an unmistakably slightly septic condition, very restless, with a temperature of 103° F. and a poor pulse of 100; no albumen in the urine. The tumor had increased to twice its former size. It had a nearly transversal position; the part of it adjoining the liver was tender in a high degree. The surface of the tumor had now several elevations of nearly walnut size.

On the 4th her urine was cloudy and contained a trifle of albumen; the sediment consisted of some mucus and pus, plenty of cells from the kidney pelvis, bacteria, and some red corpuscles. No other characteristic substances. She was at once removed to the City Hospital. Her color became more and more of a yellowish gray hue, temperature kept vacillating between 101° and 103° F., pulse between 88 and 110; she felt rather prostrated and without energy. Her urine was always clear, specific weight 1015, no albumen. The combination of her present condition with her former history caused the following diagnosis: floating kidney, twisted pedicle, cystic degeneration, and septic infection. The possibility of a malignant tumor-formation on the kidney could not be perfectly excluded.

Extirpation of the kidney was advised and finally accepted. On the 7th of November an exploratory incision into the abdomen was made, the diagnosis verified, and the left kidney was felt to be in its normal position, apparently of normal size and shape. After closing the abdominal incision, the kidney was reached through an oblique incision from the last floating rib to the spina iliaca superior posterior. The musculi obliqui abdominis had to be incised to develop the large tumor. The other muscles were separated bluntly.

The pedicle showed up in the lower part of the wound; vessels and ureter were separately tied and the wound closed with drainage. The total loss of blood was about one ounce. The patient rallied well from the chloroform narcosis; five hours later the catheter voided two ounces of clear urine of specific weight of 1010. After a good night's rest, she spontaneously urinated

thirteen ounces of the same quality. Her temperature at this time was 100° F., with a pulse of 96.

Twenty-six hours after operation she vomited; the amount of urine grew less, vomiting continued at long intervals, venesection, repeated saline infusions, strychnine, and pilocarpine hypodermics were of no avail. The pulse rose to 110, while the temperature dropped below 97° F. She grew comatose, and sixty-two hours after operation she died. No post-mortem.

Sagittal cut, showing the largest cysts to be in both ends, the intermedial layer containing the largest ones. The specimen is somewhat contracted by being kept in alcoholic preserving fluid.

The condition of the extirpated kidney is best shown by the following illustration from a photograph (see Figure).

The kidney pelvis was considerably contracted. The different cysts had no connection with each other, and were separated on the surface by larger and smaller areas of apparently healthy kidney tissue. Some of the cysts contained clear fluid, others were hæmorrhagic; a great number contained a substance like diluted pus. The size of the organ was seven and a half by four inches.

According to the statements made by other observers, we are justified in supposing that the other kidney was the seat of a similar degeneration.

An analogous case is published by Carl Beck in the February number, Vol. xxxiii, of these ANNALS, page 147. His patient survived ten days, finally to die from uræmia.

The picture given by him seems to indicate that his case was farther developed than mine, establishing the old rule that the danger of nephrectomy decreases the more before operation the remaining kidney has become accustomed to do an increased amount of work.

The important features of our case are the following: The surprisingly rapid development simulating malignancy; the absence of nearly all clinical symptoms of floating kidney; the absence of all pathological conditions in the urine during the last sickness, with just *one* single exception, and upon which exception was based the diagnosis that there was not a malignant tumor, but retention of septic material in the kidney.

If strangulation of the ureter and septic infection, the latter probably caused by the colon bacillus, as there were no traces of cystitis, had not intervened, this same kidney, floating as it was and with cystic disposition, would probably have preserved its size, smooth surface, and activity for quite a while. Strangulation followed by retention of urine under pressure has in our case dilated the small cysts and not the kidney pelvis; so, instead of getting pyelitis, we had the cysts dilated by urine and infected by pus—cystopyonephrosis.

I think we may draw the conclusion in analogous cases that the kidney tissue and the cyst walls offer less resistance than the fibrous structure of the kidney pelvis.

In a case less accessible to palpation than ours, it can happen that the surgeon, prepared by the clinical symptoms to operate for typical pyonephrosis, will find conditions very different from what he had expected. It may be stated here as very important that the exploratory laparotomy and palpation of the other kidney give no positive information as to its condition, neither would ureteral catheterism. In every case of

true cystic kidney, we shall have to take into account the strong suspicion that the other kidney under the strain of increased work will develop the same degeneration; so, as a matter of fact, nephrectomy for cystic kidney will nearly always mean death. I realize that if nephrorrhaphy had been performed at the time suggested, the final complications would have been prevented, and I am convinced from this experience of the perniciousness of waiting.

Now, if not nephrectomy, what other kind of proceeding should have been followed out in our case, where the strangulation, sepsis, and pain required prompt and efficient action? Beck's suggestion of having the single cysts opened will prove to be impossible for execution, as his picture shows as well as mine. So I suggest, in a case like this, to remove the twist, to split the kidney substance down to the pelvis, stitch the organ up into position, and drain with plain gauze. A great part of the septic material will so find an outlet, and the large cysts in the centre will be obliterated.

Another case, which recently came to my knowledge,[1] where a woman of fifty years had been living for over twelve years with highly developed bilateral cystic kidneys and died accidentally after an exploratory laparotomy, shows for how long a time such kidneys can do a goodly amount of work.

[1] Northwestern Lancet, 1901, p. 227. Dr. Brackett is evidently very far from the facts if he considers the bilateral affection in his highly interesting case as unique. As mentioned above, it is the terrible rule.